

Forest Stand Improvement

Alabama Guide Sheet No. AL 666A



Definition

Forest management practices to improve the vigor, stocking, composition, productivity, and quality of forest stands.

Criteria

Practices used for timber stand improvement should be used to remove trees of undesirable form, quality, condition, growth rate, or species. They may include precommercial thinning, release, or prescribed burning.

Precommercial Thinning

Precommercial thinning is usually applied in stands that have too many stems per acre. It is the cutting of trees that are too small to sell to provide room for the remaining trees to grow. This type of thinning provides no income to the landowner but the cost can be justified by the increased growth of the remaining trees. Precommercial thinnings are usually applied to seedling and sapling-sized stands (stands with trees less than 5 inches in diameter). Trees may be removed by mowing, disking, chopping, or by using hand tools. Seedlings and small saplings are removed in strips then cross-mowed, disked, or chopped to obtain a proper spacing of trees. Larger saplings may need to be removed by hand tools or a chain saw. Select the best trees to leave as crop trees.

In pine stands, precommercial thinnings should be done from October through March to reduce the damage from insects. Hardwood stands should be thinned during mid-summer because there is less sprouting than during other seasons.

Release

Release is a practice used to regulate species composition and improve the quality and growth of desired tree species. Trees, which are overtopped by undesirable trees and shrubs, need to be released so they can grow. Unless these trees are released from competing vegetation, their growth will be severely retarded or they may die. Trees may be released by the use of herbicides or by mechanical methods. Herbicides may be broadcast either by helicopter or with ground equipment. Individual stems may be treated by tree injection, soil application or basal bark spray. Use care when releasing desirable hardwoods, as herbicides will kill both undesirable and desirable hardwoods. Herbicides injected into undesirable hardwoods may be translocated to desirable hardwoods through root grafts.

Undesirable trees may be removed by chainsaw. It is always desirable to harvest trees that are marketable. The undesirable hardwood component of a pine-hardwood forest may be removed for firewood. When hardwoods are removed by cutting, the stumps should be treated with a herbicide to prevent sprouting.

Use only herbicides that are labeled for the specified forestry use and be sure to follow label directions.

Prescribed Burning

Prescribed fire is an excellent tool to use for improving forest stands. Prescribed fire can be used to control undesirable trees and shrubs, which are growing in the understory. Prescribed fire is most effective on trees and shrubs that are two inches or less in diameter. Fire not only improves the composition of

forest stands but it also enhances wildlife habitat. It is recommended that a prescribe burn plan be developed and implemented by someone who is certified in the use of prescribed fire. There is potential liability and the loss of human life and property if burning is not conducted properly. All applicable state laws must be followed.

References

USDA-NRCS Alabama Conservation Practice Code
666 – Forest Stand Improvement. January 1999.

USDA-NRCS Alabama Conservation Standard Code
666 – Prescribed Burning. January 1999.

Timber Stand Improvement. Publication 1281.
Mississippi State University Extension Service.
1999.

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